

OUR INDUSTRIAL AGE.

By Charles P. Steinmetz.

Two events brought about our industrial age; the declaration of the rights of man, by the great French Revolution, and the invention of the steam engine. But the personal freedom and the equality of opportunity, given by the French Revolution, by themselves meant little but the equality of slaving in manual labor, in producing food, clothing and shelter. The great liberator was the steam engine, which freed man from the slavery of manual labor, by increasing his working capacity a hundred-fold, and so graduated man from a machine, doing the work of the world, to the machine tender, directing the work of the steam engine.

Up to then education had been a handicap to the masses, by making them dissatisfied with their lot. But more intelligence and knowledge is needed in directing the machine, and so education became a necessity for the masses, and educational systems for the masses had to be developed in all the countries. Thus the steam engine freed man not only from the slavery of manual labor, but also from the slavery of ignorance and superstition.

Thus originated, rose and developed the great industrial development, based on steam engine, steamship and locomotive, and later electric light and power.

Up to then, man essentially depended upon his immediate surroundings. While luxuries might be brought from a distance, all necessities had to be produced in his immediate surroundings.

A few inches less of rainfall, or a little less of sunshine, and crop failure resulted in famine and possibly starvation: no great advance of civilization was possible under such conditions. It was the development of the railway systems, during the last half of the 19th century, which made man independent of his surroundings in the supply of materials, made available not only as luxury but in the very necessities of life anything that the earth produced anywhere, and so safeguarded his existence. And the first condition of civilization is security.

But the work of the railroads was incomplete: equally necessary with materials is energy and power, the thing which gives life to materials, that is, which moves and pushes, lights and heats, which turns the wheels of industry and converts the materials to the use of man.

The great achievement of the beginning of our century is the organization of the collection, transmission, distribution and supply of the world's energy, by the electrical engineer, and if now you see all around you electric transmission lines arising and covering the country with a network of electric circuits, realize that they do for energy, what the railroads have done for materials, organizing their supply and so provide the two great requirements of civilization, materials and energy.

Thus the productivity of the world has steadily increased: where formerly man had to labor continuously to produce the barest necessities of life, with very much less labor, all of us now enjoy innumerable things which a generation ago people

could not dream of as luxuries. To illustrate how enormously the world's productivity has increased: a few years ago, suddenly two hundred million people in Europe went insane, stopped producing and started destroying everything as rapidly as possible. After watching them for a few years, the infection caught us, and we sent millions to help destroy, assigned other millions to produce means of destruction. Nevertheless the rest of our population of 100 million was sufficient to produce all the needs and many of the luxuries of all of America's and Europe's population.

This vast productivity was brought about by the creation, during the latter part of the last century, of a new tool: the industrial corporation. Legally, the corporation is a person, but it differs from the individual person, in that it is immortal, and that it is not limited to the intelligence, knowledge or ability of a single person, but can call upon and utilize ^{and make} its own, the intelligence, knowledge and ability of unlimited numbers of persons.

Naturally, the great industrial corporations rapidly replaced the innumerable individual producers of the early years of capitalism, and organized production in ever increasing efficiency.

But there was a flaw in the development of the corporation, which almost wrecked our civilization, and still seriously endangers it: the elements of the corporations are human beings, and this was for a long time overlooked when ~~the~~ organizing the activities of the corporation: the financial, the administrative and the technical, and the result was the industrial warfare between capital and labor, which is still with us.

In the early days of small individual producers, the relation between employer and employee was that between equals in industrial strength; the employer often had been employee before, and the employee hoped sometimes to become employer, and often did so. Entirely different however the balance of industrial power has become, for instance between the individual unskilled laborer and the ~~big~~ corporation. Thus to somewhat restore the balance, the employees had to organize also.

The conservative element in our society, and thus the stabilizing factor, is the middle class; ~~the~~ the mass of small producers, distributors, or otherwise industrially independent people of moderate means. The industrial corporation, by its superior productive efficiency, rapidly displaced the small individual producer ^{and} ~~so~~ progressively wiped out the conservative middle class and substituted in their place a mass of industrially dependent wage earners, while at the same time ^{it} ~~concentrated~~ ever larger masses of capital in fewer hands. Now the industrially dependent wage earner is not inherently conservative, but if he begins to feel that he does not get a fair deal in the industrial organization, rather tends to become revolutionary, as European experience has shown.

In our country, the corporate organization of production has progressed farther than in most countries, but nevertheless a large conservative middle class has remained, due to the corporate organization limiting itself to production, but keeping out of the field of distribution. The distribution of the pro-

ducts thus has remained in the hands of a large number of small distributors, so supporting a large industrially independent middle class. But also has remained the frightful inefficiency of individual small scale distribution, by numerous small middle men and hundreds of little stores where a few big ones could distribute at a small fraction of the cost.

The result is, that often the cost of distribution, from producer to consumer, is many times the cost of production; that the price of a commodity to the ultimate consumer is several times greater than the price received by the ultimate producer, and no further decrease of the cost of production can materially decrease the price of the article to the consumer.

But we cannot stand still, and the increasing cost of living means increasing wages and so increasing cost of production, and we are beginning to go backwards, ^{thus} losing the advantage of the efficiency of the corporate production.

Thus either our industrial progress comes to a standstill and we begin to go back, or the same methods of efficiency which exist in the field of production, must be extended into the field of distribution. That is, corporate distribution, wiping out the mass of small inefficient distributors, just as it has wiped out the mass of small inefficient producers.

But this means wiping out the remaining middle class of industrially independent conservative people of small means, replacing them ^{by} industrially dependent wage earners.

This is inevitable and necessary in the progress of our civilization, but if it results in the elimination of a conservative middle class and a segregation into a few very rich capitalists and a mass of radical and possibly revolutionary proletarians, it spells disaster.

This is the problem before our industrial civilization of today: Can the industrial corporation, which has shown its superior efficiency in finance, administration and technic, also be made equally efficient in satisfying the social industrial ambitions of its employees, make them as sincere adherents of orderly progress by evolution, and ~~defenders~~ ^{defenders} of our industrial civilization, as the former middle class has been?

It means a new function of the corporation, a development of the relation and cooperation with the human beings, which are the elements of the corporation. As you know, the more progressive corporations are beginning to wake up to the situation and its problems, though even the most progressive ones hardly realize the seriousness and the difficulty of the problem.

Obviously, no preaching at people, no complaining or talking about agitators, nor any suppressive legislation can have any effect here; it is not a question of under man or super man, of American or foreigner, but we deal with industrial laws, which are laws of nature, against which all political laws are futile. It means studying the problem, and working out a solution in conformity with the unvarying and unbreakable laws of nature.

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